Detection of Cervical Cancer

A Study of Motivation for Cytological Screening

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■ *Annual cytological examination of cervical scrapings should virtually eliminate deaths from cervical cancer, but many deaths still occur because not all women are sufficiently motivated to have the examination.*

As part of a San Diego County Medical Society cancer control project, 2000 women were interviewed to evaluate motivating influences. It was found that most of the 70 per cent who had had the examination were motivated by the advice of physicians, rather than directly by lay publicity. Women who had not had the examination, more commonly the old and the poor, were not antagonistic but mostly unmotivated. Lay education to induce women to seek medical advice, and education of physicians to get them to urge and to carry out their part in routine annual cytologic examination of cervical exudate probably could bring about virtual elimination of death from cervical cancer.

IT IS GENERALLY BELIEVED that most deaths from cervical cancer could be prevented through routine annual cytologic examination of cervical scrapings or exudate. A number of population screening projects have been organized to eliminate death from cervical cancer in this manner.[1,4,5,6] In all these projects adequate clinical means of collecting specimens and of examining them were developed, but in none of the projects was a way found to induce all women to have the examination. Better methods to get them to do so are needed.

Why are some women motivated to have Papanicolaou smear examination while others are not? How effective is public education in press, radio and television compared with education imparted directly by physicians in their daily doctor-patient relationships? What population groups are resistant and how may their resistance be overcome? San Diego County, California was chosen for a study to answer these questions because its population has been exposed for several years to continued and varied educational pressures and its physicians have been constantly urged to screen all their patients in an effort to achieve total population screening.[4]

In 1956, the San Diego County Medical Society started a uterine cancer control screening project. A Uterine Cancer Control Committee was appointed. Private laboratories agreed to provide volume screening at reasonable cost. A central registry* received duplicate cytology reports from all eight major laboratories participating. Provision was made for free screening of indigent patients at San Diego County Hospital and for low cost screening for low income patients attending Mercy-Guadalupe part pay clinic. All through the operation of this project, a sustained effort in public education was made by the County Health Department, the San Diego Branch of the American Cancer Society and the San Diego press. The film, "Time and Two Women," was widely shown. The science writer of the San Diego press contributed a number of feature articles. At the same time, the medical society through its publications, and the committee in many talks

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before medical gatherings, continued to urge all physicians to recommend annual cytologic examination to all adult female patients seen in private practice.

At the time of the 1960 census, San Diego County had a population of approximately one million people, about half within the city of San Diego and half in other cities and rural areas. About 300,000 people of the San Diego County population in 1960 were adult women, age 20 or more.

In 1961, the first interview study was conducted, using a cross-section population sample of 1,000 representative women residing within the city of San Diego.[2] In 1962, an additional 1,000 representative women residing in the county, outside the city of San Diego, were interviewed.[3] Members of both population samples were selected by a random procedure from census tracts, in proportion to the percentage of women age 20 and over, within each tract, as reported in the 1960 census figure. For example, Tract-D 23 had 1.0 per cent of women age 20 and over in the city of San Diego, according to the census; therefore, ten interviews, or 1 per cent of all interviews, were completed in Tract D-23. Within each tract, blocks were selected at random. Within each block included in the sample, the starting address was chosen by a random procedure. All women, age 20 and over, in a selected dwelling unit were members of the sample. Authenticity of the representative population sample was confirmed by a close correlation in different age groups between census figures and the sample. All interviews were conducted in the home by trained and experienced women interviewers under the direction of Oscar J. Kaplan, Ph.D., in the name of the San Diego Branch of the American Cancer Society. Answers were machine-analyzed and cross-tabulated.

In order to learn what proportion of San Diego women had been screened at least once, the following question was asked:

Q: *Have You Ever Had a Pap Cancer Smear* of the Cervix?*

	1,000 Women City—1961	*1,000 Women County—1962*
A: Yes	62%	72%
No	34	26
Don't know	4	2

It is evident that by 1962 the San Diego project had succeeded in screening approximately 70 per cent of the adult female population at least once. This left 30 per cent of the population yet unscreened. A distressing number of invasive cervical cancers are still being seen in San Diego hospitals, mostly from among the 30 per cent of the population missed by the "Pap screen."

*This term was generally understood by women who were questioned.

In order to determine the relative importance of different motivating influences, the following question was asked in the 1961 study:

Q: *What Led You to Get Your First Pap Cancer Smear?*

A: 1. Recommended by doctor	76%
2. Part of regular physical examination	12
3. Realized importance of test, asked for it	4
4. Article in newspaper or magazine or TV program	4
5. Recommended by friend or relative	2
6. Saw cancer film, "Time and Two Women"	2
Total	100%

While a relatively insignificant proportion of women gave lay educational measures the primary credit for their motivation, it may be that lay publicity helped in getting them to seek medical advice.

All women who answered that they had never received a cancer smear (30 per cent) were asked why:

Q: *Is There Any Reason Why You Haven't Had a Pap Smear Cancer Test?*

A: 1. Never heard of test	30%
2. Doctor didn't recommend it	24
3. Never thought, of it	23
4. Feel healthy: nothing wrong with me	7
5. Too busy: No time to go to doctor	5
6. Don't believe in test	4
7. Too expensive	2
8. Other answers—Don't like doctors, Afraid of answers, Religious reasons	1
9. Had hysterectomy	4

It seems clear that the great majority (77 per cent) of women who had not been screened, were missed because of lack of knowledge, lack of a physician's advice or simply lack of sufficiently strong motivating influence. Inducing these women to have the examination should be easy. Answers 4 and 5, accounting for an additional 12 per cent of those who had not had the test, indicate an attitude of indifference and possibly resistance. Only answers 6, 7 and 8, totaling only 7 per cent of the 30 per cent minority who were untested, indicated strong resistance and perhaps disbelief in the medical profession as guardians of health. Thus, only about 2 per cent of the entire population sample expressed overt resistance to having smears. With sufficient motivating effort, more than 95 per cent of the population could probably be screened.

Probing further into the influence of physicians, women who had not had a smear were asked:

Q: *Has a Doctor Ever Suggested That You Have a Pap Cancer Smear Test Made?*

A: 1. Yes	4%
2. No	93
3. Don't remember	3

Again, the vast majority of women (93 per cent) who had not been tested, simply had not yet been exposed to a physician's motivating influence.

In searching for deterrent influencing factors, all women were asked:

Q: *How Much Confidence Do You Have in the Ability of Doctors to Find and Cure Early Cancer?*

A:		1961	1962
1.	Great deal	58%	62%
2.	Moderate amount	28	21
3.	A little	6	4
4.	No confidence	5	3
5.	Some kinds of early cancer can be cured; others can't	1	4
6.	Don't know enough about it	2	4
7.	Depends on doctor	0	2

The majority of women (86 per cent) in 1961 and 83 per cent in 1962) had confidence in the ability of physicians to find and cure early cancer. Lack of faith in physicians is apparently not a frequent deterrent influence.

The cost of obtaining a smear has often been held to be a deterrent influence. Accordingly, all 1961 respondents were asked:

Q: *How Much Did You Pay for Your Last Pap Cancer Smear Test?*

A:		
1.	$5.00 or less	22%
2.	More than $5.00	10
3.	Don't remember	54
4.	No charge	14

It was a surprise to find that more than half the respondents did not remember how much the examination cost. Answering another question, of those who stated they were not planning to have another test, only 3 per cent gave financial reasons. Evidently cost in San Diego County is not a major deterrent.

Cross-tabulation studies were made to determine the relation of economic status to ease of motivation toward having routine cytologic examination:

	Annual Income (Dollars)				
	Less Than 4,000	*4,000 5,999*	*6,000 7,999*	*8,000 9,999*	*10,000 and Above*
Had examination	42%	61%	72%	78%	88%
Did not have	53	36	25	19	9
Don't know	5	3	3	3	3
Total	100%	100%	100%	100%	100%

Another cross-tabulation relating education to cytologic examination shows identical trends, as would be expected since education levels and income levels tend to be parallel.

Study of the data also showed a significant relationship between the age of a woman and whether or not she had had cytologic examination:

	Age (Years)				
	20-29	*30-39*	*40-49*	*50-59*	*60+*
Had examination	56%	72%	76%	64%	39%
Did not have	40	25	22	32	55
Don't know	4	3	2	4	6

This observation is important, not only because cancer is a disease of aging tissues, but also because more and more people are reaching advanced age.

Discussion

It seems probable that if sufficient motivating influences were directed in channels suggested by these findings, virtually all women in a given area would have cytologic examination and medical control of cervical cancer would become a reality. Most people still turn to physicians for advice on medical matters. Only a negligible proportion of a representative sample of women expressed feelings of antagonism or disbelief in the ability of physicians to find and cure early cancer.

Efforts to influence and motivate women through a program of physician education have apparently been most rewarding. Almost three-quarters of the population in the county studied had been screened, directly as a result of physician-patient educational influence. Most of the women who had not been screened had not been exposed to any physician-patient motivating influence. There is no reason to believe they would resist if they were so exposed.

On the other hand, efforts to motivate women directly through lay publicity and lay educational measures have not resulted in large numbers of women seeking cytologic examination of cervical exudate. Even among women who have been screened, knowledge of the importance of the examination and the methods involved seems generally vague. Attempting to motivate a population by imparting knowledge of the importance of cytologic examination, especially among the aged and the economically depressed seems almost too monumental to be practical.

If lay measures can motivate women to see physicians, physicians can easily motivate women to have cytologic examinations. This approach to total population screening seems the practical one in the light of the present survey. All physicians who see women should be urged to insist on annual cytologic examination of cervical exudate. No other laboratory test is so rewarding in detecting silent serious disease.

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